

WHAT IS CLAIMED IS:

EM A21
1. An ultraviolet light irradiation apparatus for irradiating untreated water or other fluids,

2 comprising:

3 a light transmission tube having an internal light irradiation lamp;

4 a scraper ring slidably and tightly fitted to the circumference surface of the light transmission
5 tube;

6 said scraper ring having an internal cleaning solution chamber communicating with a chemical
7 solution pipe; and

8 wherein said scraper ring is movably mounted so as to be reciprocally moved over the
9 circumference surface of said light transmission tube to clean said light transmission tube.

1 2. The ultraviolet ray irradiation apparatus as claimed in claim 1, further comprising a
2 sealing material fitted against the surface of said light transmission tube and adjacent to said cleaning
3 solution chamber.

1 3. The ultraviolet ray irradiation apparatus as claimed in claim 2, wherein the sealing
2 material is an O-ring.

1 4. The ultraviolet ray irradiation apparatus as claimed in claim 1, further comprising
2 means for reciprocally sliding said scraper ring over the circumference surface of said light
3 transmission tube.

1 4 5. The ultraviolet ray irradiation apparatus as claimed in claim 4, wherein the means for
2 reciprocally sliding comprises a moving frame fitted to a rotating screw stem installed externally to
3 said light transmission tube, and a drive means for rotating said screw stem in normal and reverse
4 order.

1 5 6. The ultraviolet ray irradiation apparatus as claimed in claim 5, wherein the drive means
2 is a motor.

1 6 7. The ultraviolet ray irradiation apparatus as claimed in claim 2, further comprising
2 means for reciprocally sliding said scraper ring over the circumference surface of said light
3 transmission tube.

1 7 8. The ultraviolet ray irradiation apparatus as claimed in claim 7, wherein the means for
2 reciprocally sliding comprises a moving frame fitted to a rotating screw stem installed externally to
3 said light transmission tube, and a drive means for rotating said screw stem in normal and reverse
4 order.

1 8 9. The ultraviolet ray irradiation apparatus as claimed in claim 8, wherein the drive means
2 is a motor.

1 9 10. The ultraviolet ray irradiation apparatus as claimed in claim 1, wherein the scraper ring
2 is composed of an elastic material.

11. A3
11. The ultraviolet ray irradiation apparatus as claimed in claim 1, wherein the cleaning
2 solution chamber has an open annular configuration such that the opening portion is adjacent to the
3 surface of the light transmission tube.

12. 4
12. The ultraviolet ray irradiation apparatus as claimed in claim ~~5~~⁴, wherein a plurality of
2 scraper rings are mounted to the frame and are reciprocated together with the frame.

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